Comparative Analysis of the Revised Content Standards for Science Grades K - 8

This document provides a comparison of the main concepts of the previous 2002 Science Academic Content Standards with the 2010 Revised Science Standards.

Kindergarten

Content that is new to Kindergarten	Content that is still included at Kindergarten, but may be modified or at a greater depth	Content that is no longer a focus at Kindergarten
• *Earth and Space Sciences*: Weather can be measured and has seasonal patterns (formerly in 2nd grade) • *Earth and Space Sciences:* The moon and sun are observed in different positions in the sky throughout the day/night. The lit portion of the moon is different throughout the month (formerly in 2nd grade). • *Life Science:* Living things have certain characteristics (formerly in 1st and 2nd grades). • *Life Science:* Living things use body parts to seek resources (formerly in 1st grade). • *Physical Science:* Some objects and materials can be made to vibrate and produce sound (formerly in 2nd grade).	• *Earth and Space Sciences*: Weather changes are long term and short term. • *Earth and Space Sciences:* The moon, sun and stars move in patterns and can be seen at different times of the day or night. • *Life Science:* Living things are different from non-living things. • *Life Science:* Living things are found in different areas around the world and have physical traits to help them survive. • *Physical Science:* Objects and materials have physical properties, can be sorted, and are made up of parts	• *Earth and Space Sciences:* Living things cause changes on Earth (now in LS, 2nd grade). • *Life Science*: Plants and animals resemble their parents. Some variations can exist among individuals (now in LS, 3rd grade). • *Physical Science:* Things move in different ways (now in 1st grade). • *Physical Science:* Pushes and pulls can change how things move (now in 1st grade).

1st Grade

Content that is new to 1st Grade	Content that is still included at 1st Grade, but may be modified or at a greater depth	Content that is no longer a focus at 1st Grade
• *Life Science:* Living things can only survive in environments that can support their need (formerly in 2nd grade). • *Physical Science:* Parts of objects have properties that allow them to carry out specific functions (formerly in 4th grade). • *Physical Science:* Objects can be moved in a variety of ways (formerly in Kindergarten).	• *Earth and Space Sciences:* The sun is the principal source of energy (formerly in PS). • *Earth and Space Sciences:* The physical properties of water can change (formerly in PS). • *Life Science:* Living things have basic needs; many come from the environment in which they live. Seasonal change can impact the availability of resources. • *Physical Science:* Properties of materials and objects change. • *Physical Science:* Changes in motion and temperature are a result of changes in energy. • *Physical Science:* The motion of an object can speed up, slow down, or change direction with a push or pull.	• *Earth and Space Sciences:* Living things cause changes on Earth (now in LS, 2nd grade). • *Earth and Space Sciences*: Identify and describe Earth's resources (now in 3rd grade). • *Life Science:* Living things use body parts to seek resources (now in Kindergarten). • *Physical Science:* Objects can be classified based on their physical properties (now in Kindergarten). • *Physical Science:* Energy can make things work and be obtained from many sources (now in 3rd grade). • *Physical Science:* Some objects can affect others, even if the two objects do not touch (now in 2nd grade).

2nd Grade

Content that is new to 2nd Grade	Content that is still included at 2nd Grade, but may be modified or at a greater depth	Content that is no longer a focus at 2nd Grade
• *Earth and Space Sciences:* Long and short term weather changes occur due to changes in energy (formerly introduced in Kindergarten and at greater depth in 4th grade). • *Earth and Space Sciences:* The atmosphere is made up of air and water is present in the air (formerly in 4th grade). • *Life Science:* Living things interact with their physical environment. • *Physical Science:* Forces change the motion of an object; contact and noncontact, including: gravity, magnets, and static electricity (formerly in 3rd grade).	• *Life Science:* Plants and animals live in distinct environments. • *Life Science:* Some kinds of individuals that once lived on Earth have completely disappeared although they were something like others that are alive today.	• *Earth and Space Sciences:* The moon and sun are observed in different positions in the sky throughout the day/night. The lit portion of the moon is different throughout the month (now in Kindergarten). • *Earth and Space Sciences*: Weather can be measured and has seasonal patterns (now in Kindergarten) • *Life Science:* Living things can only survive in environments that can support their needs (now in 1st grade). • *Physical Science:* Some objects and materials can be made to vibrate and produce sound (now in Kindergarten). • *Physical Science:* Light travels in a straight line until it strikes an object (now in 5th grade).

3rd Grade

Content that is new to 3rd Grade	Content that is still included at 3rd Grade, but may be modified or at a greater depth	Content that is no longer a focus at 3rd Grade
• *Earth and Space Sciences:* Renewable and nonrenewable resources (formerly in 5th grade). • *Life Science*: Life cycles of plants (formerly in 4th grade). • *Life Science:* Traits and structures of plants, relationship between individual and the environment (formerly in 4th grade). • *Physical Science:* Objects and substances are made of matter; matter exists in different states with different properties (formerly in 4th grade). • *Physical Science:* Energy can cause change (including phase changes) and has different forms (formerly in 1st and 4th grades).	• *Earth and Space Sciences*: Earth's non-living resources (soil, water, air, rocks). • *Life Science*: Life cycles of animals. • *Life Science:* Traits and structures of animals, relationship between individual and the environment. • *Life Science:* Offspring resemble parents and each other.	• *Life Science:* Fossils, classification, and flow of energy (now in 4th grade). • *Physical Science:* The position of an object can be described by locating it relative to other objects (now in 1st grade). • *Physical Science:* The motion of an object can be described by tracing and measuring it position over time (now in 6th grade). • *Physical Science:* Forces can affect the motion of objects (now in 2nd grade).

4th Grade

Content that is new to 4th Grade	Content that is still included at 4th Grade, but may be modified or at a greater depth	Content that is no longer a focus at 4th Grade
• *Physical Science:* Matter is conserved (formerly in 7th grade). • *Physical Science:* Heat and electrical energy can be transferred and transformed; electricity and magnetism are related (formerly in 5th grade). • *Life Science:* Environmental changes can be positive, neutral or detrimental (formerly in 5th grade).	• *Earth and Space Sciences:* Geologic processes that affect the surface of Earth, including landform formation. • *Life Science:* Fossils, the environment, and extinction. • *Physical Science:* The temperature of objects can be changed.	• *Earth and Space Sciences*: Weather changes that occur over a period of time (now in grades K-2). • *Life Science*: Life cycles of plants (now in 3rd grade). • *Life Science:* Plant structures, classification, and function (now in 3rd grade). • *Physical Science:* Changes can be classified as chemical or physical. • *Physical Science.* Objects can be described by the properties of materials from which they are made (now in Kindergarten and 1st grade). • *Physical Science:* Matter has different states with different properties (now in 3rd grade).

5th Grade

Content that is new to 5th Grade	Content that is still included at 5th Grade, but may be modified or at a greater depth	Content that is no longer a focus at 5th Grade
• *Life Science:* Symbiotic relationships (formerly in 7th grade). • *Physical Science:* The amount of change in movement is based upon the amount of force and mass (formerly in 8th and 9th grades).	• *Earth and Space Sciences:* the solar system (including planets, and all celestial bodies, orbital patterns, characteristics of planets and the sun). • *Life Science:* food webs, chains, and energy flow, roles in an ecosystem. • *Physical Science:* Light and sound are forms of energy and behave in predictable ways.	• *Earth and Space Sciences:* Renewable and non-renewable energy (now in 3rd grade). • *Life Science:* Environmental changes can be positive, neutral or detrimental (now in 4th grade). • *Physical Science:* Heat and electrical energy can be transferred and transformed; electricity and magnetism are related (now in 4th grade). • *Physical Science:* Temperature is a measure of thermal energy; thermal energy can be transferred to other objects (now in 6th and 7th grades).

6th Grade

Content that is new to 6th Grade	Content that is still included at 6th Grade, but may be modified or at a greater depth	Content that is no longer a focus at 6th Grade
• *Earth and Space Sciences:* Properties and formation of soil, soil horizons. • *Physical Science:* Properties and changes in matter can be explained by the properties and movement of atoms and molecules (formerly in 7th and 9th grades). • *Physical Science:* Energy can be classified as kinetic or potential (formerly in 7th grade). • *Physical Science:* Motion is described by speed and direction (formerly in 8th grade).	• *Earth and Space Sciences:* Properties of minerals, mineral formation and identification. Characteristics of rocks, rock formation and identification. • *Life Science:* Modern Cell Theory, cell functions, specialized cells, plant and animal cells, cell structures. • *Life Science:* Cellular reproduction, conceptual mitosis (further coverage in 8th grade). • *Life Science:* Structure of organism, organization of living things and survival. • *Physical Science:* Equal volumes of different substances usually have different masses.	• *Life Science:* Ecosystems, organisms interacting with the environment (now in 5th grade). • *Life Science:* Meiosis and inherited traits (now in 8th grade). • *Physical Science:* Energy resources can be classified as renewable and nonrenewable (now in ESS 3rd and 7th grades). • *Physical Science:* Changes can be classified as chemical or physical.

7th Grade

Content that is new to 7th Grade	Content that is still included at 7th Grade, but may be modified or at a greater depth	Content that is no longer a focus at 7th Grade
• *Earth and Space Sciences:* Introduction of global climate and air/ocean currents (formerly in 9/10th grades). Properties of the atmosphere. • *Earth and Space Sciences:* Patterns and cycles in the Solar system, including moon phases, eclipses, and tides (formerly in 5th and 8th grades). • *Life Science:* Transfer of matter between organisms and between organisms and their physical environment (food chains and food webs are in 5th grade). • *Physical Science:* Elements and compounds can be classified by their properties (formerly in 9th grade). • *Physical Science:* Energy can be transferred in many ways, including waves (formerly in 8th and 9th grades).	• *Earth and Space Sciences:* Biogeochemical cycles (including the hydrologic cycle). Environmental impacts and effects as they relate to the cycles. • *Life Science:* Ecosystems, biomes and transfer of energy and matter, populations, photosynthesis (including the chemical formula). • *Physical Science:* Energy can be transferred and transformed but is always conserved.	• *Earth and Space Sciences:* Weather, clouds (now throughout grades K-5). • *Life Science:* Body plans and internal structures of multi-cellular organisms (now in 6th grade). • *Life Science:* Diversity among organisms (now throughout grades K-5). • *Life Science:* Symbiotic relationships, food webs/food chains, introductory photosynthesis (now in 5th grade). • *Physical Science:* Matter is conserved (now in 6th grade). • *Physical Science:* Energy can be classified as kinetic or potential (now in 6th grade).

8th Grade

Content that is new to 8th Grade	Content that is still included at 8th Grade, but may be modified or at a greater depth	Content that is no longer a focus at 8th Grade
• *Earth and Space Sciences:* History of plate tectonics (including sea-floor spreading and continental drift). Formerly in 9th grade. History of Earth and the geologic record. • *Life Science:* diversity of species occurs over many generations, fossil records provide evidence of number and types of species. • *Life Science:* Mendelian Genetics. • *Physical Science:* Gravitational, magnetic, and electric forces can be described in terms of fields. • *Physical Science:* Potential energy can take different forms (gravitational, magnetic, chemical, and elastic).	• *Earth and Space Sciences:* Plate Tectonics, Earth's interior, and Earth's surface. • *Life Science:* Reproduction, meiosis and inherited traits. • *Physical Science:* Forces have magnitude and direction; net forces change the motion of objects.	• *Earth and Space Sciences:* Patterns and cycles in the Solar system, including moon phases, eclipses, and tides (now in 7th grade). Life cycles of stars (now in HS Physical Science course). • *Life Science:* Body plans and internal structures of multi-cellular organisms (now in 6th grade). • *Physical Science:* Reference points, changes in position and time are used to describe motion (now in 6th grade). • *Physical Science:* Waves are produced by vibrations and transfer energy (now in 7th grade).